Bariatric Surgery – Actuarial Analysis – Small Group Market

Medical Impact

- **To what extent is the service generally recognized by the medical community as being effective in treating patients?**

- **To what extent is the service generally recognized by the medical community, as demonstrated by a review of scientific and peer review literature?**

- **To what extent is the service generally available and utilized by treating physicians?**

Clinical Effectiveness

In 1991, the National Institutes of Health (NIH) convened a group of health care professionals to develop a consensus on gastrointestinal surgery for severe obesity.[1] The panel recommended the following:

1. *Patients seeking therapy for severe obesity for the first time should be considered for treatment in a nonsurgical program with integrated components of a dietary regimen, appropriate exercise, and behavioral modification and support.*
2. *Gastric restrictive or bypass procedures could be considered for well-informed and motivated patients with acceptable operative risks.*
3. *Patients who are candidates for surgical procedures should be selected carefully after evaluation by a multidisciplinary team with medical, surgical, psychiatric, and nutritional expertise.*
4. *The operation should be performed by a surgeon substantially experienced with the appropriate procedures and working in a clinical setting with adequate support for all aspects of management and assessment.*
5. *Lifelong medical surveillance after surgical therapy is a necessity.*

In 2004, a consensus conference was held by the American Society for Bariatric Surgery (ASBS) to update the 1991 NIH consensus statement.[2] The 2004 ASBS panel found that "Bariatric surgery is the most effective therapy available for morbid obesity and can result in improvement or complete resolution of obesity comorbidities."

In September 2004, *Annals of Surgery* published an article describing a study on the impact of surgery on the mortality and morbidity of morbidly obese patients.[3] This population-based study compared the mortality and morbidity of a cohort of morbidly obese patients treated with surgery to the mortality and morbidity of a control group that

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[1] Gastrointestinal Surgery for Severe Obesity. NIH Consensus Statement Online. 1991 Mar 25-27. http://consensus.nih.gov/1991/1991GISurgeryObesity084html.htm

[2] Buchwald, Henry,MD, PhD, FACS. "Consensus Conference Statement; Bariatric surgery for morbid obesity: Health implications for patients, health professionals, and third-party payers." (2005). http://www.asbs.org/html/pdf/2004_ASBS_Consensus_Conference_Statement.pdf

[3] Christou, Nicolas V.,MD, PhD; John S. Sampalis, PhD; Moishe Liberman, MD; Didier Look, MD; Stephane Auger, BSc; Alexander P.H. McClean, MD; and Lloyd D. MacLean MD, PhD. "Surgery Decreases Long-term Mortality, Morbidity, and Health Care Use in Morbidly Obese Patients" (2004). http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1356432

had not received surgery. The cohorts were followed for up to five years. The study found that the surgery group had a significantly reduced mortality rate relative to the control group. The number of hospitalizations, the number of physician visits, and the total health care costs were lower for the surgery group than for the control group. Significant risk reductions were observed as a result of surgery for several conditions, including cancer, hypertension, and type 2 diabetes. The only increased risk found was for digestive disorders. The surgery produced a 67% excess weight loss in those studied. We note that the surgery cohort represents 1,035 patients.

The article above is but one of several studies that have been published on the effects of surgical treatment of obesity. In 2005 a meta-analysis was published that reviewed 167 previously published studies and analyzed the effects of the surgery.[4] The authors concluded that surgery is more effective than nonsurgical treatment for weight loss and control of some comorbid conditions in patients with a BMI of 40 or greater. In addition, a May 2007 article in the *New England Journal of Medicine* noted that improvement in comorbid conditions "has been consistently reported after bariatric surgery."[5] The authors believe that the impact on mortality has not been clearly established.

The Swedish Obese Subjects study, recently published in the *New England Journal of Medicine*, followed 2,010 surgery patients as well as a control group.[6] The study found that surgery for severe obesity is associated with long-term weight loss and decreased mortality.

Selection Criteria

The 1991 NIH consensus statement recommended that potential candidates for surgery include those whose BMI exceeds 40, or whose BMI is between 35 and 40 in certain instances such as high risk co-morbid conditions.

In 1995 an expert panel was convened by the National Obesity Education Initiative of the National Heart, Lung, and Blood Institute, in cooperation with the National Institute of Diabetes and Digestive Kidney Diseases. The panel released the following Evidence Statement in agreement with the findings of the NIH:[7] "Surgical interventions in adults with a BMI ≥40 or a BMI ≥35 with comorbid conditions result in substantial weight loss."

The ASBS panel continues to recommend that candidates should have attempted to lose weight by nonoperative means, and should be evaluated and cared for by a multidisciplinary team. The panel also finds that the weight criteria of BMI greater or

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[4] Maggard, Melinda A.,MD, et al., "Meta-Analysis: Surgical Treatment of Obesity" (2005). http://www.annals.org/cgi/content/full/142/7/547

[5] DeMaria, Eric J.,MD. "Bariatric Surgery for Morbid Obesity." (2007). http://enotes.tripod.com/bariatric2007.pdf

[6] Sjöström, Lars,MD, PhD, et al. "Effects of Bariatric Surgery on Mortality in Swedish Obese Subjects." (2007). http://content.nejm.org/cgi/content/full/357/8/741

[7] National Heart, Lung, and Blood Institute in cooperation with The National Institute of Diabetes and Digestive Kidney Disorders, "Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults; The Evidence Report" (1998). http://www.nhlbi.nih.gov/guidelines/obesity/ob_gdlns.pdf

equal to 40, or 35 to 40 with severe co-morbidities is still reasonable, consistent with the NIH findings in 1991.

In the April 2005 edition of the *Annals of Internal Medicine*, the American College of Physicians (ACP) published clinical guidelines for surgical management of obesity.[8] The guidelines included the following recommendations:

> *Recommendation 4: Surgery should be considered as a treatment option for patients with a BMI of 40 kg/m^2 or greater who instituted but failed an adequate exercise and diet program (with or without adjunctive drug therapy) and who present with obesity-related comorbid conditions, such as hypertension, impaired glucose tolerance, diabetes mellitus, hyperlipidemia, and obstructive sleep apnea. A doctor/patient discussion of surgical options should include the long-term side effects, such as possible need for reoperation, gall bladder disease, and malabsorption.*
>
> *Recommendation 5: Patients should be referred to high-volume centers with surgeons experienced in bariatric surgery.*

The major difference between the ACP and the previous recommendations cited is that the ACP recommends a BMI of 40 or greater with co-morbidities. The others recommend a BMI of 40 or more regardless of co-morbidities or a BMI of 35 to 40 with co-morbidities.

Based on these studies, there appears to be a general consensus that bariatric surgery is effective, and the appropriate selection criteria for bariatric surgery is BMI greater or equal to 40, or BMI between 35 and 40 with co-morbid conditions. Furthermore, the Betsy Lehman Center for Patient Safety and Medical Error Reduction identified over 3,000 abstracts on the subject and reviewed 104 in detail[9]. The Center's resulting recommendation, published in 2004, was consistent with the 1991 NIH consensus criteria. The ACP recommendation is the only published study that we have found that disagrees with this recommendation and instead recommends that a person be eligible for surgery if they have both a BMI of 40 or greater and co-morbid conditions.

Utilization Management

URAC (formerly the Utilization Review Accreditation Commission) defines utilization management as "the evaluation of the medical necessity, appropriateness and efficiency of the use of healthcare services, procedures and facilities under the provisions of the applicable health benefits plan."[10]

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[8] Snow, Vincenza, MD; Patricia Barry, MD,MPH; Nick Fitterman, MD,; Amir Qaseem, MD, PhD, MHA; and Kevin Weiss, MD, MPH, for the Clinical Efficacy Assessment Subcommittee of the American College of Physicians, "Pharmacologic and Surgical Management of Obesity in Primary Care: A Clinical Practice Guideline from the American College of Physicians." (2005).
http://www.annals.org/cgi/reprint/142/7/525.pdf

[9] Commonwealth of Massachusetts, Betsy Lehman Center for Patient Safety and Medical Error Reduction, Expert Panel on Weight Loss and Surgery, Executive Report. (2004).
http://www.mass.gov/Eeohhs2/docs/dph/patient_safety/weight_loss_executive_report.pdf

[10] Freedman, Skip, MD, "Understand the nuances of utilization review and utilization management" (2006).
http://managedhealthcareexecutive.modernmedicine.com/mhe/article/articleDetail.jsp?id=282713

Existing Maryland law includes clinical guidelines for surgical treatment for the morbidly obese. COMAR 31.10.33.03 provides the following utilization review criteria for surgery:[11]

.03 Utilization Review Criteria for Surgical Treatment of Morbid Obesity.

A. When establishing utilization review criteria for the surgical treatment of morbid obesity as a covered benefit under Insurance Article, §15-839, Annotated Code of Maryland, a carrier or a private review agent acting on behalf of a carrier:

(1) Shall limit the criteria to the permissible criteria listed in §B of this regulation; and

(2) May not use any criteria that is more restrictive to the member than the criteria listed in §B of this regulation.

B. Permissible Criteria for Utilization Review Decisions.

(1) Body Mass Index.

(a) Except as permitted under §B(1)(b) of this regulation, a carrier or a private review agent acting on behalf of a carrier shall consider a member to meet the body mass index criterion if the member has a body mass index greater than 40 kilograms per meter squared.

(b) If the member has a comorbid medical condition, the carrier or private review agent acting on behalf of the carrier may not impose the criterion described in §B(1)(a) of this regulation, but shall consider the member to meet the body mass index criterion if the member has a body mass index equal to or greater than 35 kilograms per meter squared.

(c) In determining whether the member has a comorbid medical condition under §B(1)(b) of this regulation, the carrier or the private review agent acting on behalf of the carrier shall consider the member to have a comorbid condition if the member has one of the following conditions:

(i) Hypertension;

(ii) A cardiopulmonary condition;

(iii) Sleep apnea;

(iv) Diabetes; or

(v) Any life threatening or serious medical condition that is weight induced.

(2) The carrier or private review agent acting on behalf of the carrier may establish a utilization review criterion that limits the benefit for surgical treatment of morbid obesity to adults who are 18 years old or older.

(3) The carrier or private review agent acting on behalf of the carrier may establish a utilization review criterion that requires the member to complete a psychological examination of the member's readiness and fitness for surgery and the necessary postoperative lifestyle changes before undergoing surgical treatment of morbid obesity.

[11] http://www.dsd.state.md.us/comar/31/31.10.33.03.htm

(4) Completion of a Structured Diet Program.

(a) If a carrier or a private review agent acting on behalf of a carrier establishes a criterion that requires a member to complete a structured diet program, the carrier or private review agent acting on behalf of the carrier may not establish a criterion that is more restrictive than described in §B(4)(b) of this regulation.

(b) The carrier or the private review agent acting on behalf of the carrier shall consider the member to have completed a structured diet program, if the member completes either of the following in the 2-year period that immediately precedes the request for the surgical treatment of morbid obesity:

(i) One structured diet program for 6 consecutive months; or

(ii) Two structured diet programs for 3 consecutive months.

(c) A carrier or a private review agent acting on behalf of a carrier shall use flexibility with regard to defining a structured diet program.

(d) A carrier or a private review agent acting on behalf of a carrier shall consider commonly available diet programs, such as Weight Watchers or Jenny Craig, to be structured diet programs.

Cost Effectiveness

We have identified two studies estimating the financial impact of bariatric surgery. In the October 2005 publication of the *American Journal of Managed Care*, Eric A. Finkelstein, PhD, and Derek S. Brown, PhD, performed a cost-benefit simulation of coverage for bariatric surgery.[12] They estimated that it would take approximately nine years to recoup the cost of the bariatric surgery. This estimate incorporates the medical savings only, which is of particular relevance to health insurers. It does not include the post-surgery savings to employers associated with the reduction in lost productivity due to weight related issues.

In September 2008, "A Study on the Economic Impact of Bariatric Surgery" was published in the *American Journal of Managed Care*.[13] The study concluded that the initial investment is returned within four years for open surgery, and may be returned in as little as two years for laparoscopic surgery. The savings result from decreased comorbidities. The authors address the differences between these results and those of the Finkelstein and Brown simulation study. The authors of the 2008 study point to several differences in the methodologies used, as well as the earlier time period used in the Finkelstein and Brown simulation. Using a similar time period as the earlier simulation, the authors arrive at an estimated break-even point of four to nine years. They believe that the results are consistent and that the current return on investment is two to five years, depending on the date and type of surgery.

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[12] Finkelstein, Eric A.,PhD, and Derek S. Brown, PhD, "A Cost-benefit Simulation Model of Coverage for Bariatric Surgery Among Full-time Employees." (2005).
http://www.ajmc.com/Article.cfm?ID=2959

[13] Crémieux, Pierre-Yves, PhD; Henry Buchwalk, MD, PhD; Scott A. Shikora, MD; Arindam Ghosh, PhD; Haixia Elaine Yang, PhD; and Marric Buessing, BA, "A Study on the Economic Impact of Bariatric Surgery." (2008).
http://www.ajmc.com/files/articlefiles/AJMC_08sep_Cremieux589to596.pdf

We note that these cost-benefit statements appear to be based on claims costs and savings alone and do not appear to incorporate any administrative expenses associated with the benefit. Administrative costs could include claims processing expenses, costs of pre-certifying associated hospital admissions, updating evidence of coverage documents, and other expenses which may add as much as 15-20% to the cost of services.

In an October 2008 meeting with the medical directors of several large insurers operating in Maryland, all of the medical directors indicated that surgery for obesity is now recognized as medically effective, with the payback period being about four years. The major issue cited was that employers with high employee turnover may not enjoy the benefits of this type of surgery. Certain industries historically experience high employee turnover, as do small employers. Furthermore, the medical directors believe that centers of excellence are appropriate for this surgery despite resistance to them from employers and employees. Carriers would like the flexibility to designate their own centers of excellence as opposed to any formal mandate requiring such.

In Maryland, six facilities have been designated as Bariatric Surgery Centers of Excellence by the American Society for Metabolic and Bariatric Surgery (ASMBS).[14] They are Sinai Hospital of Baltimore, Johns Hopkins Bayview Medical Center, St. Agnes Healthcare, Greater Baltimore Medical Center, Shady Grove Adventist Hospital, and Peninsula Regional Medical Center. There are other facilities that perform the surgeries but have not received the Center of Excellence designation from the ASMBS. Currently, there are no Maryland Centers of Excellence in the western part of Maryland. Some Centers in bordering states are closer to the western part of Maryland than the Maryland Centers.

Demand for Services

The utilization of bariatric surgery has been increasing in Maryland. In 2006, approximately 1,900 inpatient surgeries were performed in Maryland hospitals, according to the Commission's utilization review report. [15] While this represents only a 1% increase over 2005 utilization, the utilization increase in the previous four years ranged from 18% – 92%. This type of pattern (rapid increases in utilization followed by lower increases) is typical as new procedures become more widely performed. In addition, the authors of the utilization review report note that procedures are now being done on an outpatient basis. Because the 1,900 figure represents only inpatient surgeries, the total utilization will be higher. However, data is lacking on the percentage of bariatric surgeries performed on an outpatient basis. It appears that the laparoscopic Lap-BAND® surgery is the most likely to be performed on an outpatient basis. According to Sinai Hospital's website[16], "If LAP-BAND® System is performed laparoscopically, patients typically spend less than 24 hours in the hospital."

[14] http://www.surgicalreview.org/locate.aspx?state=US-MD#srchResults
[15] Maryland Health Care Commission. "Update on the Utilization Review of the Surgical Treatment of Morbid Obesity." (2007).
[16] http://www.lifebridgehealth.org/sinaibody.cfm?id=3313

Social Impact

- **To what extent is the service generally utilized by a significant portion of the population?**

- **To what extent does lack of coverage result in individuals' avoiding necessary health care treatments?**

- **To what extent is insurance coverage already generally available?**

- **To what extent does lack of coverage result in unreasonable financial hardship?**

- **What is the level of public demand for the service?**

- **How interested are collective bargaining agents in negotiating privately for inclusion of this coverage in group contracts?**

- **To what extent is the service covered by self-funded employers in the state who employ at least 500 employees?**

In 2007, 26.3% of the Maryland adult population was estimated to be obese.[17] This is based on a BMI of 30 or greater. In 2000, 20.2% of the Maryland adult population was estimated to be obese.[18] This represents a 30% increase in the last seven years. The mandate on large fully insured plans in Maryland applies only to those people with morbid obesity – defined as having a BMI of 40 or greater, or 35 or greater with a comorbid condition. Approximately 10% of the population nationwide has a BMI of 35 or greater.[19] Because Maryland's percentage of population with obesity is consistent with national averages,[20] we would expect approximately 10% of Maryland's population to have a BMI of 35 or greater as well. Those with a BMI between 35 and 40 will not be eligible for services under the mandate unless there is a comorbid condition. Therefore, 10% can be viewed as an upper limit on those who would be eligible based on the BMI criteria. Prevalence rates among the obese population have been estimated as follows:[21]

Major Diagnostic Category of a Comorbid Condition	Prevalence Rate with BMI 35 or Greater	Prevalence Rate with BMI 30-34.9
Musculoskeletal	38.9%	33.6%
Circulatory	34.5%	26.5%
Endocrine, Nutritional and Metabolic Diseases	30.2%	22.8%
Respiratory	19.8%	13.6%

[17] http://apps.nccd.cdc.gov/brfss/
[18] Ibid.
[19] Durden, Emily D., PhD; Dan Huse, MA; Rami Ben-Joseph, PhD; Bong-Chul Chu, PhD. "Economic Costs of Obesity to Self-Insured Employers." (2008).
[20] http://apps.nccd.cdc.gov/brfss/
[21] Durden, Emily D., PhD; Dan Huse, MA; Rami Ben-Joseph, PhD; Bong-Chul Chu, PhD. "Economic Costs of Obesity to Self-Insured Employers." (2008).

The total prevalence rate exceeds 100% for individuals with a BMI of 35 or greater because some have more than one comorbid condition. Based on these prevalence rates, it is likely that a majority of the 10% with a BMI of 35 or greater would be eligible for the surgery.

Alternatively, the 2004 Consensus Conference [22] estimated that 20% of obese adults are morbidly obese. Using this estimate and Maryland's obese population statistic of 26.3% produces an estimate of the morbidly obese population of 5.3% as of 2004. However, the rate of increase of morbid obesity has exceeded the rate of increase of obesity. We expect that 6% – 9% of Maryland's population is currently morbidly obese.

The utilization review criteria allow the exclusion of children under age 18 from the mandate. Furthermore, the prevalence statistics cited above represent prevalence in adults. In our experience, we generally see that about 25% of the commercial membership is under age 18. Therefore, we would estimate that 4.5% – 6.8% of the total commercial population would currently be eligible for the surgery, provided they meet the other criteria, such as failure to sustain weight loss through diet. If morbid obesity rates continue to increase in the future, the eligible population will increase as well.

The 2006 census reported a Maryland population of 5,615,727. [23] According to the census, 24.2% were under age 18 and 11.6% were age 65 or older. While obesity surgeries are done on children and seniors, the majority of surgeries are performed on adults from age 18 to 64. Therefore, we estimate that approximately 53 of every 100,000 adults in Maryland age 18 to 64 had the surgery in 2006. With an approximate small group membership of 428,000, we would expect that about 321,000 of the members are adults and therefore about 170 would have had the surgery had this mandate been in effect.

In Maryland, coverage is generally available due to the mandate that applies to large fully insured plans and individual plans. Large self-funded employer groups and labor groups generally cover the service, as we discuss later in this report. However, coverage is not universal. Across the country, there are health plans that continue to exclude this coverage. In a recent *Health Plan Week* article,[24] Aetna spokesperson Walt Cherniak indicated that Aetna Inc. does not cover bariatric surgery in its fully insured products unless the plan sponsor has purchased a rider.

There is insufficient data to indicate how often patients are forgoing surgery because of the cost. Obesity has broad negative health implications. However, some individuals may elect to continue the use of alternative treatments, such as weight loss programs.

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[22] Buchwald, Henry,MD, PhD, FACS. "Consensus Conference Statement; Bariatric surgery for morbid obesity: Health implications for patients, health professionals, and third-party payers." (2005). http://www.asbs.org/html/pdf/2004_ASBS_Consensus_Conference_Statement.pdf

[23] *http://quickfacts.census.gov/qfd/states/24000.html*

[24] *Health Plan Week.* "Payers Weigh Coverage Costs, Problems In Deciding on Bariatric Surgery Benefits." September 29, 2008.

According to "A Study on the Economic Impact of Bariatric Surgery,"[25] the average cost of bariatric surgery is $26,000 for open surgery and $17,000 for laparoscopic surgery. This is based on a nationwide sample of people with private insurance, and is inflation adjusted to 2005 dollars. Costs vary by location. Since Maryland has Bariatric Surgery Centers of Excellence in three cities, we would expect the rates in Maryland to be within 10% of the national average. We estimate that approximately 85% – 90% of bariatric surgeries are performed laparoscopically, both nationwide and in Maryland. Therefore, we would anticipate the average cost in Maryland to be approximately $20,000 – $25,000. Other sources have estimated the cost to range from $20,000 to $30,000 nationwide.[26,27]

As previously stated, recent utilization in Maryland has been approximately 1,900 inpatient surgeries per year. Only a small fraction of people with morbid obesity have already had the surgery; however, utilization has increased significantly in recent years. Health plans are introducing disease management programs to address obesity. Approximately $30 billion a year is spent nationwide in weight loss products and services.[28] There is a large public demand for weight loss services, and surgery is a growing source of that cost.

Currently the only groups that have a choice of including bariatric surgery are self-funded plans. Their choice to either purchase or decline coverage for bariatric surgery indicates the level of willingness to pay for this added benefit. An analysis of whether these plans include this benefit adds insight as to how bariatric surgery is perceived absent a mandate.

We surveyed large organized labor groups. These groups are currently self-funded and generally provide coverage for bariatric surgery. Despite already providing coverage, two groups responded to the question asking if there was interest in providing coverage. One group indicated moderate interest and a willingness to pay $1 to $2 per member per month for the coverage. The other group indicated no interest. However, it is unclear whether the group is not interested in having coverage or if they indicated no interest due to the existing coverage.

We also surveyed several large self-funded employers and asked if they cover bariatric surgery. All of the employers surveyed provide coverage for the service.

Of the three employers that provided us with their specific policy language, one provides coverage consistent with the language of the mandate for large fully-insured plans. The

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[25] Crémieux, Pierre-Yves, PhD; Henry Buchwalk, MD, PhD; Scott A. Shikora, MD; Arindam Ghosh, PhD; Haixia Elaine Yang, PhD; and Marric Buessing, BA, "A Study on the Economic Impact of Bariatric Surgery." (2008).
http://www.ajmc.com/files/articlefiles/AJMC_08sep_Cremieux589to596.pdf

[26] Minium, Harry. "Bill requiring insurance to cover obesity surgery tabled." *The Virginian-Pilot and The Ledger-Star*. January 27, 2006.

[27] Alt, Susan J. "Bariatric surgery may become a self-pay service." *Health Care Strategic Management*. July 12, 2005.

[28] A Federal Trade Commission Staff Report. "Weight-Loss Advertising: An Analysis of Current Trends." (2002).
http://www.ftc.gov/bcp/reports/weightloss.pdf

other two are very similar to the mandate language and utilization review criteria of COMAR 31.10.33.03. However, they appear to require the comorbid condition of "coronary heart disease" rather than the broader "a cardiopulmonary condition" referenced in the mandate and the utilization review criteria. The policy language provided indicated the following eligibility criteria:

A. Presence of severe obesity that has persisted for at least the last 2 years, defined as any of the following:

1. Body mass index (BMI)* exceeding 40; *or*

2. BMI* greater than 35 in conjunction with any of the following severe co-morbidities:

a. Coronary heart disease; *or*

b. Type 2 diabetes mellitus; *or*

c. Clinically significant obstructive sleep apnea; *or*

d. Medically refractory hypertension (blood pressure greater than 140 mmHg systolic and/or 90 mmHg diastolic despite optimal medical management)

AND

B. Member has completed growth (18 years of age or documentation of completion of bone growth).

C. Member has attempted weight loss in the past without successful long-term weight reduction.

D. Member must meet either criterion 1 (physician-supervised nutrition and exercise program) or criterion 2 (multidisciplinary surgical preparatory regimen).

E. For members who have a history of severe psychiatric disturbance (schizophrenia, borderline personality disorder, suicidal ideation, severe depression) or who are currently under the care of a psychologist/psychiatrist or who are on psychotropic medications, pre-operative psychological clearance is necessary in order to exclude members who are unable to provide informed consent or who are unable to comply with the pre- and postoperative regimen. Note: The presence of depression due to obesity is not normally considered a contraindication to obesity surgery.

Financial Impact

We estimate the cost of covering bariatric surgery at approximately $1.50 to $2.50 per member per month in the small group market. This estimate is based on two analyses of the total cost. In developing our first estimate, we used Maryland-specific utilization and cost data previously discussed in this report. This data is specific to Maryland but includes data on the entire population, including those with health coverage from public sources such as Medicaid and Medicare.

We made several adjustments to the utilization data in order to reflect expected utilization in the small group market assuming mandated coverage. We assumed that the underlying utilization estimate was understated due to surgeries done on an outpatient basis and surgeries that may be performed out of state for Maryland residents due to a lack of nearby Maryland facilities, particularly in the western part of the state. While there may be some off-setting utilization of people from out of state coming to Maryland for their

surgeries, based on the geographic location of the Centers of Excellence in Maryland and neighboring states, we believe that more residents would leave Maryland for the surgery, rather than vice versa. In addition, we adjusted the utilization to reflect an expected level of utilization as of 2007 and the increased utilization that would be anticipated if coverage is expanded due to a mandate in the small group market. We also adjusted the cost per surgery to reflect pre-surgery and follow-up care that is not included in the cost estimates already quoted.

We also included the cost of complications, such as re-admissions, that were not previously fully reflected. This approach gave us an estimate toward the lower end of our range, and slightly below prior estimates that we have provided to the Commission in 2007. This is due in part to bariatric surgery's decreasing cost trend. As noted above, the cost of surgery is lower for laparoscopic surgery than for open surgery. We have seen a dramatic shift toward laparoscopic procedures, as well as availability of laparoscopic procedures done on an outpatient basis. Because of that shift, the average cost of surgery has declined in recent years. In addition, as the surgery is performed more frequently and becomes concentrated into Centers of Excellence, we expect that the incidence of complications will decrease, resulting in shorter hospital stays.

To develop our second estimate, we analyzed a proprietary database of national commercial claims data. Only plans that provide coverage for bariatric surgery were included in the analysis. This provided us with a higher utilization estimate and resulted in a per-member per-month cost estimate toward the higher end of our range. Because this is a commercial population with coverage for the surgery, it may be more relevant to estimating the utilization that would be expected as a result of a mandate on commercial plans.

The resulting range of $1.50 to $2.50 is based on the following assumptions:

	Low	**High**
Utilization per 100,000 adults	68	119
Cost per surgery, including complications and pre- and post-surgery care	$27,500	$27,500
Cost per adult per month	$1.56	$2.72
Average number of members per adult	1.33	1.33
Claim cost per member per month	$1.17	$2.04
Small group market loss ratio	80%	80%
Premium impact per member per month	$1.46	$2.55

The table above presents the assumptions that were used for our full-cost estimates. The table below summarizes our estimates for both full cost and marginal cost. The full-cost estimate is a function of the Comprehensive Standard Health Benefit Plan (CSHBP) 2007 average premium. The marginal cost estimate is a function of the average small group premium including riders as well as assuming that about 50% of the groups may have this coverage.

Cost Estimates for Small Group

	Full Cost	Marginal Cost
Estimated cost of mandated benefits as a percentage of average cost per group policy, using the midpoint of our estimated range	1.0%	0.3%
Estimated cost as a percentage of average wage	0.09%	0.04%
Estimated annual per-employee cost of mandated benefits for group policies	$43.06	$21.52

These estimates reflect the full cost of care, including both what the insurance plan pays and any cost sharing that the member pays. We recognize that the CSHBP has significant cost sharing requirements. We also recognize that anyone contemplating surgery for morbid obesity would do so because of the related medical conditions, for which the member would have already expended cost sharing dollars toward their out of pocket maximum. We have assumed that on average approximately 10% of the surgery's cost will be paid by the member for the CSHBP. This is a conservative estimate meaning that it is higher than the dollar amount we would assume if there was no cost sharing satisfied by other conditions. Therefore, the estimated annual per-employee premium cost of mandated benefits is $38.75 at full cost and $19.37 at marginal cost.

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